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Carl G. DeMarcken

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FISH & RICHARDSON PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

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LE, LINH GIANG

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/098,580
Filing Date: March 15, 2002
Appellant(s): DEMARCKEN et al.

Cynthia Caramana
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 16 March 2009 appealing from the Office action mailed 05 August 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5999946

BAILIS

12-1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 28-48 and 56-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailis et al., U.S. Patent No. 5,999,946.

3. As per claim 28, Bailis et al. teach a method of providing a predicted answer in response to a query from a user, the method comprising: retrieving a stored query from a cache that stores queries and answers to queries stored from previously completed queries sent to the system (see column 4, lines 47-49); determining whether at least

some fields in the stored query match corresponding fields in the user's query and retrieving an answer corresponding to the stored query from the cache (see column 4, lines 55-58); determining whether the retrieved answer is not stale (see column 4, lines 50-54); and if the retrieved answer is not stale, returning the retrieved answer as the predicted answer to the user's query (see column 4, lines 55-58).

Bailis et al. do not expressly teach said system as an availability system. However the specific data that is being queried does not patentably distinguish the claimed method because such data is non-functional descriptive material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the querying of Bailis et al. to any type of commercial database engine (see Column 4, lines 15-17), such as that of an airline seat availability system. One of ordinary skill in the art at the time the invention was made would have been motivated to apply the querying as such for the purpose of performing large scale searches more efficiently as suggested by Bailis et al. (see column 1, lines 9-10).

4. As per claim 29, Bailis et al. teach the method of claim 28 as described above. Bailis et al. further teaches storing queries and answers from previously completed queries in the cache (see column 4, lines 47-49). Bailis et al. do not expressly teach storing one or more query fields for airline name, flight number, origination, destination, date of query, traveler nationality, point of purchase, frequent flyer status and seller data. However these differences are only found in the non-functional data stored in the

database. Data identifying airline name, flight number, origination, destination, date of query, traveler nationality, point of purchase, frequent flyer status and seller data is not functionally related to the substrate of the method. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store any data in the database of the method of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

5. As per claim 30, Bailis et al. teach the method of claim 28 as described above. Bailis et al. do not expressly teach storing one or more answer fields for booking codes and booking counts and assigning a data parameter to the stored answer wherein assigning includes one or more parameters for time, date, source and user characteristics. However these differences are only found in the nonfunctional data stored in the database. Data identifying airline name, flight number, origination, destination, date of query, traveler nationality, point of purchase, frequent flyer status and seller data is not functionally related to the substrate of the method. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store any data in the database of the method

of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

6. As per claim 31, Bailis et al. teach the method of claim 28 as described above, wherein determining whether at least some of the fields of a stored query matches the user's query further comprises: matching the query fields of the query to the query fields stored in the cache database (see column 4, lines 55-58). Bailis et al. do not expressly teach parsing the query into query fields. Official notice is taken that parsing data is old and well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to parse the query for the purpose of convenient prediction analysis.

7. As per claim 32, Bailis et al. teach the method of claim 28 as described above, wherein matching further comprises exactly matching the query fields in the query to the query fields of a query stored in the cache (see column 4, lines 55-58).

8. As per claim 33, Bailis et al. teach the method of claim 28 as described above, wherein matching further comprises: approximately matching the query fields in the query to at least some of the query fields of a query stored in the cache (see column 4,

lines 55-58).

9. As per claim 34, Bailis et al. teach the method of claim 28 as described above. Bailis et al. further teach if the retrieved answer is stale, sending an actual query to the system, returning the actual answer received from the system to the user (see column 4, lines 8-14); and storing the actual answer and query in the cache database (see column 4, lines 47-49).

10. As per claim 35, Bailis et al. teach the method of claim 30 as described above, wherein determining whether the retrieved answer is not stale further comprises: retrieving a time stamp parameter corresponding to the retrieved answer, determining a threshold time, and comparing the time stamp parameter to the threshold time (see column 4, lines 50-54).

11. As per claim 36, Bailis et al. teach the method of claim 35 as described above. Bailis et al. do not expressly teach determining a threshold time according to one or more query factors, said query factors including a date of flight, an origin of a flight, a destination of a flight, a time of flight, a day of week per flight, a size of the airplane, an actual answer to a completed query that matches the seat availability query and an actual answer to a completed query that does not match the seat availability query. However these differences are only found in the non-functional data stored in the

database. Data identifying a date of flight, an origin of a flight, a destination of a flight, a time of flight, a day of week per flight, a size of the airplane, an actual answer to a completed query that matches the seat availability query and an actual answer to a completed query that does not match the seat availability query is not functionally related to the substrate of the method. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store any data in the database of the method of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

12. As per claim 37, Bailis et al. teach the method of claim 28 as described above, wherein returning the retrieved answer as the predicted answer to the user's query further comprises: determining that the retrieved answer from the cache database is stale (see column 4, lines 50- 54). Bailis et al. do not expressly teach including a confidence factor corresponding to the predicted answer. However this difference is only found in the non-functional data stored in the database. Data identifying a confidence factor is not functionally related to the substrate of the method. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store any data in the database of the

method of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

13. As per claim 38, Bailis et al. teach the method of claim 37 as described above. Bailis et al. do not expressly teach a confidence factor corresponding to the predicted answer. However this difference is only found in the non-functional data stored in the database. Data identifying a confidence factor is not functionally related to the substrate of the method. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store any data in the database of the method of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

14. As per claim 39, Bailis et al. teach the method of claim 37 as described above. Bailis et al. do not expressly teach a confidence factor corresponding to the predicted answer. However this difference is only found in the non-functional data stored in the database. Data identifying a confidence factor is not functionally related to the substrate of the method. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. Therefore, it would have been obvious to a

person of ordinary skill in the art at the time the invention was made to store any data in the database of the method of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

15. As per claim 40, Bailis et al. teach the method of claim 37 as described above. Bailis et al. do not expressly teach a confidence factor corresponding to the predicted answer. However this difference is only found in the non-functional data stored in the database. Data identifying a confidence factor is not functionally related to the substrate of the method. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store any data in the database of the method of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

16. As per claim 41, Bailis et al. teach the method of claim 37 as described above. Bailis et al. do not expressly teach a confidence factor corresponding to the predicted answer. However this difference is only found in the non-functional data stored in the database. Data identifying a confidence factor is not functionally related to the substrate of the method. Thus, this descriptive material will not distinguish the claimed invention

from the prior art in terms of patentability. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store any data in the database of the method of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

17. As per claim 42, Bailis et al. teach the method of claim 37 as described above. Bailis et al. do not expressly teach a confidence factor corresponding to the predicted answer. However this difference is only found in the non-functional data stored in the database. Data identifying a confidence factor is not functionally related to the substrate of the method. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store any data in the database of the method of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

18. As per claim 43, Bailis et al. teach the method of claim 42 as described above. Bailis et al. do not expressly teach a confidence factor corresponding to the predicted answer. However this difference is only found in the non-functional data stored in the database. Data identifying a confidence factor is not functionally related to the substrate

of the method. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store any data in the database of the method of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

19. As per claim 44, Bailis et al. teach the method of claim 43 as described above. Bailis et al. do not expressly teach a confidence factor corresponding to the predicted answer. However this difference is only found in the non-functional data stored in the database. Data identifying a confidence factor is not functionally related to the substrate of the method. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store any data in the database of the method of Bailis et al. because such data does not functionally relate to the substrate of the method and merely labeling the data differently from that in the prior art would have been an obvious matter of design choice.

20. As per claim 45, Bailis et al. teach the method of claim 42 as described above, wherein predicting produces a confidence factor according to a model using as a factor

in the model a threshold time, which if lapsed, indicates that the retrieved answer is considered stale (see column 4, lines 50-54).

21. As per claim 46, Bailis et al. teach the method of claim 45 as described above, wherein the threshold time varies over the lapsing of time (see column 4, lines 62-65).

22. As per claim 47, Bailis et al. teach the method of claim 45 as described above, wherein the threshold time is a pre-set time (see column 4, lines 53-54).

23. As per claim 48, Bailis et al. teach the method of claim 45 as described above, wherein the threshold time is a pre-set time determined for each given system (see column 4, lines 53- 54).

24. Claims 56-82 recite substantially similar system and computer program product limitations to those already addressed above in method claims 28-48 and, as such, are rejected for similar reasons as given above.

(10) Response to Argument

Applicant argues that claims 28-48 and 56-82 are not obvious over Bailis et. al.

(5,999,9446)

Claims 28, 30, 32, 56, 58, 59, 71 and 73

Applicant first argues on pgs. 7 and 8 of the 3/16/09 Appeal Brief that Bailis does not teach “providing a predicted answer.” Examiner disagrees. As per the language of Applicant’s claims, the final step of independent claim 28 teaches “returning the retrieved answer as the predicted answer...” (emphasis added). Thus, according to Applicant’s own language the “retrieved answer” is the “predicted answer.” Applicant argues that Bailis does not seek a *prediction* of an answer to a query but rather the actual answer. However the language of the claims do not make a distinction between the “retrieved answer” and the “predicted answer” and thus it unnecessary for the prior art teachings to do so either.

Furthermore, Examiner maintains that “providing a predicted answer” is given little patentable weight as it is found in the preamble and recites an intended use. The claim preamble must be read in the context of the entire claim. The determination of whether preamble recitations are structural limitations or mere statements of purpose or use “can be resolved only on review of the entirety of the [record] to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” *Corning Glass Works*, 868 F.2d at 1257, 9 USPQ2d at 1966. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention’s limitations, then the preamble is not considered a limitation and is of no significance to claim construction.

Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir.1999). See also *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir.1997). Applicant argues that “predicted answer” is found in the final limitation of claim 28 but “returning the retrieved answer as the predicted answer...” does not give “predicted answer” any distinct definition. The preamble stating that the method is a system *for providing* a predicted answer is merely stating an intended use and is not considered a limitation.

Applicant next argues on pg. 9 of the Appeal Brief that Bailis does not teach the limitation “retrieving a stored query from a cache that stores seat availability queries and answers, as well as, the answers.” Bailis teaches “...the database engine supplies subsequent, identical queries with the data from cache...” Thus Bailis clearly teaches retrieving a “stored query” as “identical queries” are being retrieved from the “database engine.” Examiner submits that one of ordinary skill in the art would understand a database to contain “stored” data. Therefore a database engine supplying subsequent identical queries reads upon “retrieving a stored query...”

Finally, Applicant argues on pg. 13 that Bailis does not teach “determining whether at least some fields in the stored seat availability query either match or are substantially close in characteristics to corresponding fields in the user's seat availability query.” (emphasis added). Thus the language makes it optional to have the matching

be exact matching or substantially close matching. Applicant concedes that Bailis requires exactness and Examiner submits that is all the claim limitation requires.

Claims 29, 31, 57 and 72

Applicant repeats arguments that Bailis does not teach the feature of storing queries from previously completed seat availability queries in the cache. Examiner incorporates the rebuttal from above in response.

Claims 33, 60, and 74

As per claim 33, Applicant argues that Bailis does not teach “approximately matching...” One of ordinary skill in the art would understand the definition of approximate to be “very similar” or “nearly identical.” Thus an approximation does not have to be exact but also does not exclude being exact either. An approximation encompasses exact and inexact matches. Claims are to be given their broadest reasonable interpretation and Examiner submits that Bailis’ matching process reads upon “approximately matching...”

Claims 34-35, 61-62, and 75

Applicant argues that Bailis does not teach "...if the retrieved answer is stale, sending an actual availability query to an airline availability system... returning the actual answer received from the availability system to the user; and storing the actual

answer and query in the cache database of the availability predictor.” Applicant argues that Bailis does not teach determine whether a query result *retrieved* from the cache is valid. Examiner disagrees as Bailis teaches query results may be saved as long as they are considered valid (Bailis; Col. 4, lines 45-55). The saved “query results” reads upon a “retrieved answer” as recited in claim 34.

Claims 36 and 63

Applicant makes the argument that the nature of the data in claim 36 is functional descriptive material. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)(discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Examiner maintains that the nature of the data in Applicant’s claimed invention is non-functional descriptive material. In *Lowry* the data structure increased computer efficiency and thus was considered functional. Examiner does not find persuasive the argument that the

characteristics of the query factors influence the way in which the process determines whether a result is stale and thus making the type of data functional descriptive material. Any type of data can be considered stale or invalid after a period of time but this does not affect the actual processing in the computer system as was the case in *Lowry*.

Claims 37-41, 64-68, and 76-80

Applicant recites similar arguments regarding the functional descriptive nature of the “confidence factor.” Examiner incorporates the above rebuttal and maintains that a “confidence factor” is non-functional descriptive material as it is not *functionally* interrelated to the medium and does not affect the actual substrate of the method. A “confidence factor” is a known indicator in the statistical arts to determine how definite an answer is. Thus a “confidence factor” can be applied to any type of data.

Claims 42-44, 69 and 81

Examiner incorporates the above arguments with regards to the “confidence factor” being non-functional descriptive material.

Claims 45-48, 70, and 82

As per Applicant’s arguments regarding claim 45, Applicant’s language in the claim states that the model *uses as a factor* a threshold time. Applicant defines the

model as using a threshold time to determine if an answer is considered stale. Thus Applicant's argument that Examiner *grossly mischaracterized* the "model" is unpersuasive as Applicant defines the model in the claim language (Appeal Brief; pg. 21). Bailis clearly teaches using a timer for determining if an answer is stale (Bailis; Col. 4, lines 50-54).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/M. L./
Examiner, Art Unit 3686

/Gerald J. O'Connor/
Supervisory Patent Examiner
Group Art Unit 3686

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Conferees:

Jerry O'Connor /GJOC/

SPE, GAU 3686

Vincent Millin /vm/

Appeals Practice Specialist

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FISH & RICHARDSON
225 Franklin Street
Boston, MA 02110